

27
CLAIMS

1. A method of establishing coordinated consumption of a streamed media object by first and second devices, comprising the steps of:
 - 5 (a) in the course of streaming the media object in a first stream from a server to the first device and presenting the object thereat, using a said device to effect initiation of said coordinated consumption;
 - (b) consequent on said initiation, establishing streaming of the media object from the server to the second device in a second stream separate from said first stream and
10 starting from a position in the media object that is dependent on progress of the streaming/presentation of the object to/at the first device; and
 - (c) presenting the media object at the second device.

2. A method according to claim 1, wherein in step (b) the said position at which the second
15 stream is started is dependent on the position reached in presenting the media object to the first device at the time of said initiation.

3. A method according to claim 2, wherein:
 - presentation of the media object at the first device continues whilst the second
20 stream is established;
 - the position at which the second stream is started is the said position reached in presenting the media object to the first device at the time of said initiation, adjusted by an amount that takes account of run on of the presentation of the media object at the first device during establishment of the second stream; and
 - 25 - in step (c) presentation of the media object at the second device commences substantially upon receipt of the second stream by the second device.

4. A method according to claim 2, wherein:
 - presentation of the media object at the first device is paused at least whilst the
30 second stream is established;
 - the position at which the second stream is started is substantially the said position reached in presenting the media object to the first device at the time of said initiation;

and

- in step (c) presentation of the media object at the first device is restarted substantially at the same time as presentation of the media object at the second device is started.

5

5. A method according to claim 4, wherein the second device sends the first device a commencement signal in coordination with starting presentation of the media object at the second device, presentation of the media object at the first device being restarted in response to receipt of said commencement signal at the first device.

10

6. A method according to claim 4, wherein in step (c) the second device sends a ready-to-commence indication to the first device when it is ready to commence presentation of the media object; the first device, following receipt of said ready-to-commence indication, sending a commencement signal to the second device and restarting presentation of the media object at the first device in coordination with the sending of the commencement signal; and the second device starting presentation of the media object at the second device upon receipt of the commencement signal.

15

7. A method according to claim 1, wherein in step (b) the said position at which the second stream is started is dependent on the then current position reached in sending the media object from the server to the first device.

20

8. A method according to claim 7, wherein the streamed media object is presented at the first device as soon as it is received in the first stream, the said position at which the second stream is started in step (b) being the then current position reached in sending the media object from the server to the first device.

25

9. A method according to claim 7, wherein:

- the first device includes a cache used to hold any portion of the media object received in the first stream but yet to be presented; and
- in step (b) the said position at which the second stream is started is the then current position reached in sending the media object from the server to the first

30

device less an offset corresponding to any offset at the first device between receiving and presentation positions in the media object.

10. A method according to claim 7, wherein:

- 5 - the first device includes a cache used to hold any portion of the media object received in the first stream but yet to be presented;
- in step (b) the said position at which the second stream is started is the then current position reached in sending the media object from the server to the first device; and
- 10 - the second device delays the start of presentation of the media object in step (c) by an amount corresponding to any offset at the first device between receiving and presentation positions in the media object.

11. A method according to claim 7, wherein:

- 15 - the first device includes a cache used to hold any portion of the media object received in the first stream but yet to be presented;
- in step (b) the position reached in sending the media object from the server to the first device in the first stream is jumped back by an amount corresponding to any offset at the first device between receiving and presentation positions in the media
- 20 object, the said position at which the second stream is started being made substantially the jumped-back sending position of the first stream; and
- the cache of the first device is flushed subsequent to said initiation of coordinated consumption but no later than commencement of presentation of the media object at the second device in step (c).

25

12. A method according to claim 7, wherein presentation of the media object at the first device continues whilst the second stream is established, presentation of the media object at the second device in step (c) commencing substantially upon receipt of the second stream by the second device.

30

13. A method according to claim 7, wherein presentation of the media object at the first device is paused at least whilst the second stream is established, presentation of the media

object at the first device being restarted in step (c) substantially at the same time as presentation of the media object at the second device is started.

14. A method according to claim 13, wherein the second device sends the first device a commencement signal in coordination with starting presentation of the media object at the second device, presentation of the media object at the first device being restarted in response to receipt of said commencement signal at the first device.

15. A method according to claim 13, wherein in step (c) the second device sends a ready-to-commence indication to the first device when it is ready to commence presentation of the media object; the first device, following receipt of said ready-to-commence indication, sending a commencement signal to the second device and restarting presentation of the media object at the first device in coordination with the sending of the commencement signal; and the second device starting presentation of the media object at the second device upon receipt of the commencement signal.

16. A method according to claim 7, wherein after establishment of the second stream, the generation and sending of the first and second streams is carried out independently.

17. A method according to claim 7, wherein at the server an internal stream is formed from the media object and processed for sending as said first stream, the internal stream being duplicated and processed for sending as said second stream.

18. A method according to claim 1, wherein subsequent to the commencement of presentation of the media object by both the first and second devices in at least approximate coordination, presentation coordination signals are periodically sent from at least one device to the other to enable the latter to adjust its presentation of the media object to bring it into closer coordination with the presentation by said one device.

19. A method according to claim 1, wherein subsequent to the commencement of presentation of the media object by both the first and second devices in at least approximate coordination, a change signal is sent from at least one device to the other upon

the said one device changing its presentation position in or progression through the media object otherwise than as part of its normal progression therethrough, the said other device using this change signal to adjust its presentation of the media object correspondingly.

5 **20.** A method according to claim 1, wherein the first and second devices are mobile devices.

21. A server for use in establishing coordinated consumption of a streamed media object by first and second devices, the server comprising:

- 10 - a first entity for streaming the media object to the first device in a first stream;
- a second entity for streaming the media object to the second device in a second stream separate from said first stream; and
- a control arrangement arranged to receive an indication, in the course of the first entity streaming the media object to the first device in said first stream, that coordinated
15 consumption of the media object by the first and second devices is to be established; the control arrangement being further arranged, in response to receipt of said indication, to cause the second entity to establish streaming of the media object to the second device in said second stream starting from a position in the media object that is dependent on progress of the streaming/presentation of the object to/at the first device.

20

22. A server according to claim 21, wherein the control arrangement is further arranged to receive from a said device a presentation-position indicator indicative of a position reached in presenting the media object to the first device at the time said indication is provided, the second entity being arranged to start said second stream at a position dependent on the
25 position indicated by said presentation-position indicator.

23. A server according to claim 22, wherein the second entity is arranged to start the second stream at the position indicated by said presentation-position indicator adjusted by an amount corresponding to a predicted run on of the presentation of the media object at
30 the first device during establishment of the second stream.

24. A server according to claim 22, wherein the second entity is arranged to start the

second stream substantially at the position indicated by said presentation-position indicator.

25. A server according to claim 21, wherein the second entity is arranged to start said
5 second stream at a position dependent on the then current position reached by the first entity in sending the media object from the server to the first device in said first stream.

26. A server according to claim 25, wherein the said position at which the second
stream is started is substantially the said then current position reached by the first entity
10 in sending the media object from the server to the first device.

27. A server according to claim 25, wherein the control arrangement is further arranged
to receive from a said device a reception-presentation offset indicator indicative of any
offset at the first device between receiving and presentation positions in the media
15 object, the second entity being arranged to start the second stream at a position
corresponding to the then current position reached in sending the media object from the
server to the first device less an offset corresponding to the offset, if any, indicated by
said reception-presentation offset indicator.

20 28. A server according to claim 25, wherein the control arrangement is further arranged to
receive from a said device a jump-back indicator that is indicative of any offset at the first
device between receiving and presentation positions in the media object; the control
arrangement being arranged to respond to receipt of said jump-back indicator by causing
the first entity to jump back its sending position for the first stream by an amount
25 corresponding to any offset indicated by said jump-back indicator; and the second entity
being arranged to start the second stream at a position corresponding to the sending
position of the first stream after it has been jumped back.

29. A server according to claim 25, wherein the first and second entities are so arranged
30 that after establishment of the second stream, the generation and sending of the first and
second streams is carried out independently.

30. A server according to claim 25, wherein the server is arranged to form an internal stream from the media object and the first entity is arranged to process this internal stream for sending as said first stream, the control arrangement being arranged to duplicate said the internal stream in response to receipt of said indication with the second entity being
5 arranged to process the duplicate stream for sending as said second stream.

31. A method of coordinated consumption of a streamed media object by first and second devices, the media object being accessible for streaming from a server, the method comprising the steps of:

- 10 (a) streaming the media object from the server to the first device and presenting it to a user of this device;
- (b) sending from the first device to the second device, during the course of step (a), data identifying the media object and a current position reached in presenting the object to the user of the first device;
- 15 (c) in response to a request from the second device, streaming the media object from the server to the second device in a separate stream to that involving the first device with the second stream starting from a position in the media object that is at or near the current position reached by the first device in presenting the media object; and
- (d) presenting the media object to the user of the second device such that normal
20 presentation commences at a position at, or with an advance relative to, the said current position indicated in step (b).